



Mid Klamath Watershed Council

Spring 2015, Seventeenth Edition

Watershed Resilience/Community Resilience

River Communities Learning Together, Burning Together

Fall 2014 Klamath River Prescribed Fire Training Exchange Provides a Model For Increasing the Scope and Scale of Prescribed Burning

By Will Harling

It was only ten days until the October 1 start date of the 2014 Klamath River Prescribed Fire Training Exchange (TRES), and things weren't looking promising. More than 50 would-be participants in the TRES, some coming from as far away as Spain and some who would be lighting their own properties, waited for the call. Wildfires were still skunking around in the backcountry after burning nearly 200,000 acres across the Western Klamath Mountains on the heels of a record drought. The agency CALFIRE wouldn't even consider lifting its burn ban.

TRES organizers—including the Incident Commander Tom Fielden, who had spent many years in these mountains pushing a drip torch—hung their hopes on a possible storm that could deliver the needed two inches of rain over the next few days, and made the call for everyone to come. The rain came a week before the TRES—two inches fell fairly uniformly across the six rugged mountain communities where the burning was planned.

Then, in an unprecedented show of support, CALFIRE invoked a little known clause in California's public resources



Jose Luis Duce came all the way from Spain to support the TRES with fire skills honed in a similar Mediterranean climate half way around the world. His infectious enthusiasm and tireless dedication is part of what made this event such a success.



The firing team on the TRES burn at Horn Field in Forks of Salmon pauses after ceasing ignitions. Diverse burn teams like this expedite learning opportunities for the next generation of fire practitioners.

code that allows the Unit Chief to exempt prescribed burns implemented "for health and safety purposes" from the burn ban. Humboldt County Unit Chief Tom Hein, only weeks away from retirement, issued permits for 32 burn units on 17 properties that were directly adjacent to 150 homes.

But the story goes deeper. Twice in the last decade on wetter years, CALFIRE had issued state-wide burn bans that tied burning in this far northwestern part of the state to conditions in Southern California. Representatives from the Northern California Prescribed Fire Council, tired of watching perfectly good burn windows pass them by due to the statewide ban, met with CALFIRE director Ken Pimlott in 2013 to request burn bans be implemented and removed at the unit level. He agreed to the change. True to his word, even though 2014 was the driest year on record, Pimlott ordered unit level burn bans, and as the TRES approached he supported Chief Hein in issuing permits under exemption for the TRES burns.

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An Introduction to On-the-Ground Resilience with MKWC

by Jillienne Bishop

We live in an era of rapid change. On a global scale the planet is heating up, economies remain unstable, and dozens of species are going extinct each day. Locally, we are noticing troubling shifts in the environment such as intense drought, frequent high-intensity wildfires, and declining salmon runs. Throughout time, ecosystems and communities have been continuously changing, sometimes abruptly and unpredictably. However, the current rate and scale of disturbance is particularly concerning. This situation can feel overwhelming. How do we cope with the rapid changes we are witness to on a daily basis? Land managers have turned to “resilience” as a tool to mitigate drastic ecological and community disturbances.

Resilience is the ability of a system to persist, learn, and/or transform in response to disruptive changes. Resilience recognizes that nature is dynamic. We cannot turn our environment and communities into a single fixed future when nature is constantly changing. Nor can we continue to assume that people are external drivers of ecosystem dynamics, functioning outside the ecosystem itself.

Resilience looks to past changes and disturbances of the local ecosystem, including its human inhabitants, for guidance. For example, the traditional burning practices of the Karuk Tribe are a critical land management tool in preventing catastrophic wildfires, and maintaining upslope environments. To return prescribed burning to the landscape would boost the area’s resilience. Finally, the principle of ecological resilience recognizes that ecosystems and people are an integrated system that is interdependent and co-evolving.

Resilience, like other solutions to social-ecological crises, runs the risk of becoming the next “buzzword”. Land managers often have different opinions of what resilience means. For resilience to be successful, we need on-the-ground strategies and evidence of real-world results. The Mid Klamath Watershed Council (MKWC) is committed to building

resilience for lasting communities. Here is a small sample of what we are achieving on-the-ground:

- Improving the ability of salmon to adapt to drought and rising temperatures by using manual modifications at creek mouths to increase cold-water access for migrating salmon.
- Ensuring plant communities remain diverse by surveying trails in the local wilderness areas to remove invasive plants.
- Purchasing and converting an abandoned grocery store building into a community center, thereby creating a space for public activities and local commerce.
- Training local people in prescribed fire techniques through our TREX program in order to increase local capacity to prevent large wildfires. The Mid Klamath region will be more empowered to shape its own wildfire future, the less we depend on outside assistance.
- Developing local skills to grow our restoration economy by training youth in natural resource restoration and monitoring techniques.
- Building capacity of local people to produce more of their own food sources through free agricultural workshops and hands-on trainings.
- Increasing the scope and scale of watershed wide collaboration in wildfire management through the Western Klamath Restoration Partnership (WKRPP). Resilience is more effective when private-public collaboration is enhanced.

MKWC is fortunate to work on resilience in the Mid Klamath, as there is still much to be hopeful for. Monitoring the success of our work tells us what we’re doing is working, and encourages us to keep on the path toward a more resilient ecosystem. Future changes will inevitably alter the natural and social systems of the Mid Klamath Watershed. However, the people and organizations of this region have the capacity and innovation to prepare for these changes. Continuing to build resilience now, will assist the communities and the environment of the Klamath to thrive in the future.



LiDAR? Using Laser to See the Watershed

By Mitzi Wickman, Fisheries Project Coordinator

LiDAR (Light Detection and Ranging) is a technology for using laser pulses to scan the landscape. It is similar to radar technology, but uses light instead of radio waves. For airborne LiDAR, a plane flies over the area of acquisition, sending out pulses of light with a laser. The pulses are reflected back to the sensor after hitting a surface (a tree, the ground, etc.). The sensor determines distance by measuring the time it took each pulse to return from the scanned object below. That distance, along with global positioning system (GPS) data, and the roll/yaw/pitch of the plane, are used to calculate a three-dimensional position of the target. Each returned pulse is added to the data record and used to create a “point cloud.”

The Mid Klamath Watershed Council uses LiDAR data for a number of applications. These data provide the high resolution topographic maps used for designing restoration projects. See Figure 1 of Ti Bar, for an example of a digital elevation model derived from LiDAR data. The model shows where historic Ti Creek channels flowed. The current channel is locked into its course by the Ti Bar Road and Highway 96 and their associated road fill. This simplification has degraded fish habitat. If the mouth of Ti Creek was allowed to flop around, it would create a more complex channel; more fish-passage friendly, while providing better low velocity habitat for overwintering coho. We are working on developing a fisheries restoration project that would address the need for easier access to cold Ti Creek water as well as the need for low velocity overwintering coho habitat. The high resolution topographic map of this area will be used for the design of this project.

The LiDAR data will also be used to better inform prescribed burn and fuels reduction plans. The structure of the forest and

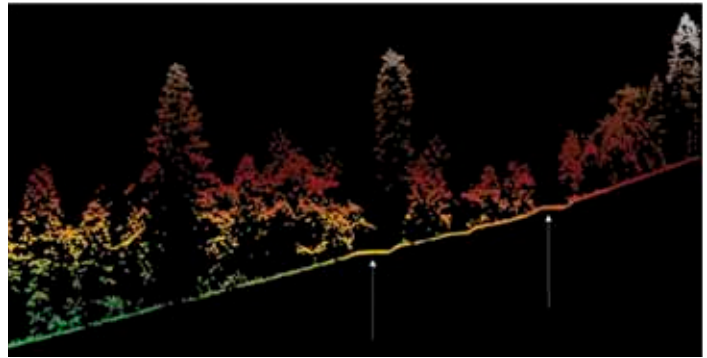


Figure 2: A cross section through LiDAR point cloud data from a March 2014 acquisition along Ti Bar Road. We will be using this LiDAR point cloud data to categorize our watershed based on different stand structures. The area between the two white arrows was prescribed burned by MKWC and partners in the fall of 2013.

riparian vegetation can be derived from LiDAR data associated with aerial imagery. Ladder fuel configurations and stand structure can be inferred as well as canopy bulk density and biomass. See Figure 2 for a cross section through LiDAR point cloud data acquired in March of 2014 in the Ti Bar Road area. The white arrows point to Ti Bar Road and the land between this switch-back was prescribed burned in the fall of 2013.

The Mid Klamath Watershed Council received funding from the California Department of Fish and Wildlife, the U.S. Fish and Wildlife, and the Forest Service to acquire LiDAR data between Happy Camp and Weitchpec in 2014/2015. Did anyone notice a plane flying back and forth over the Klamath River at the end of December and beginning of January? That plane was collecting LiDAR data. As of January 5th, 2015, we have this LiDAR data for 107,774 acres with more on the way.

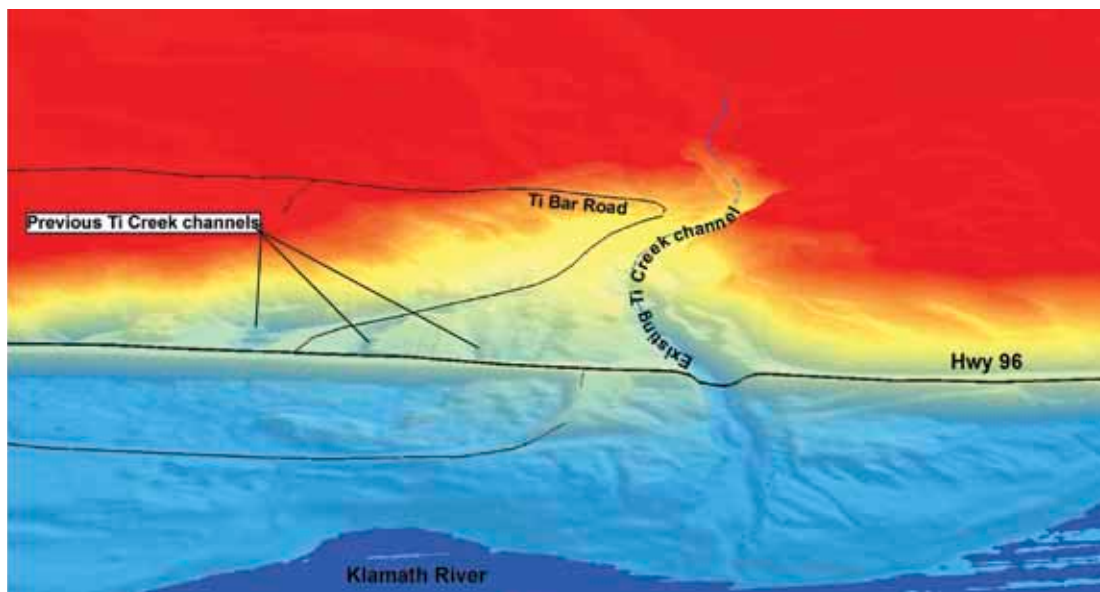


Figure 1: High resolution elevation model of the Ti Bar area derived from March 2014 LiDAR data. The current and historical hydrological footprint that can be seen on these elevation models informs fisheries project designs that are aimed to provide high quality fish habitat.

MKWC Fisheries Program Update

Overview

The MKWC Fisheries program, running five regular field crews in 2014, expanded its scope, funding stream, and staff levels significantly in the past year, thanks to its innovative restoration strategy and solid track record. Development and retention of a high-quality workforce in our fisheries program continues to elevate our work to new levels.

Fall Chinook Spawner Surveys

MKWC contributed to the 2014 Mid-Klamath Cooperative Ground Survey effort by providing one trained two-person walking crew to survey two days each week October-December, and one dive crew to survey one day each week on the mainstem Salmon River. MKWC's surveyors participated in carcass surveys, live fish counts, and redd spawning gravel surveys. Carcass surveys yielded sex, tail fork length, as well as scale, tissue, and otolith samples for all sampled fish. Samples were given to the California Department of Fish & Wildlife (CDF&W) for analysis. Additionally, recaptured/old carcasses were recorded, chopped, and re-turned to the river. All redds were marked, tallied, and mapped by acquiring GPS waypoint locations. All collected data was recorded on established CDF&W and Forest Service survey data sheets and maps, and submitted to CDF&W, Six Rivers National Forest, and Klamath National Forests.

Coho Spawner Surveys

In December 2014, MKWC began surveying prioritized tributaries to gather information on abundance and distribution of spawning coho salmon (*Oncorhynchus kisutch*). Mid Klamath coho spawner surveys are a collaborative effort between MKWC, the Karuk Tribe Department of Natural Resources, and the Klamath National Forest. The tributaries MKWC focuses on supplement the Karuk Tribe's efforts, and occur where MKWC has existing or proposed restoration projects. In 2014 MKWC surveyed for spawning coho in the following streams (determined by experts to be most significant for coho): Horse Creek, Middle Creek, Seiad Creek, Boise Creek, and Camp Creek. Crews observed and marked coho redds; counted live fish; and collected otolith, scale, and tissue samples from salmon carcasses. Coho surveys continued into 2015, and the final data will be available in March 2015.

Winter Brush Bundles

In December 2014 the MKWC Fisheries staff placed woody debris and willow brush bundles in prioritized off-channel and side channel rearing pools to benefit over-wintering juvenile salmon. Cover complexity was increased at all sites by 30%. Effectiveness was monitored by establishing before and after photopoints, and measuring square feet added. MKWC monitoring staff dove all brush bundle sites. These snorkel surveys enabled us to note presence/absence of juvenile fish. Tributaries treated: Tom Martin Creek, O'Neil Creek, West



Looking for big fish in small water. Fisheries technician Michael Hentz probes under root wads in upper Horse Creek, hoping to find an adult coho salmon returning to its natal waters to spawn.

Grider Creek, Seiad Creek, Thompson Creek, Sandy Bar Creek, Dillon Creek, and Independence Creek.

Fish Passage

MKWC fisheries crews improved juvenile and adult fish passage in creeks in 2014. After reconnaissance and project design, we manually move boulders, rocks, and gravel in order to reduce gradients, create step pools, maintain surface water connections, and treat any barriers to passage. Depending on the creek and time of year, we often build wing dams to consolidate flows, excavate gravels to deepen the channel, and focus cold water into areas of the Klamath River confluence that maximize thermal refuge. Our work is prioritized for juvenile coho utilization in the spring and summer months, transitioning to adult fish passage projects in the fall and winter. Artificial barriers (often swimmers dams) are also treated, as well as specific debris jams which created fish impassable barriers.

We treated 47 tributaries for fish passage, conducted 51 tributary assessments (33,885 ft.), and treated 138 barriers. MKWC observed juvenile coho "instream" in 32 tributaries, and ten sites showed particularly significant improvement following fish passage and brush bundling. Our crews observed total of 3,724 coho prior to treatment and 5,253 were observed after treatment, an addition of 1,329 juveniles or a 70% increase in observed population presence.

Off-Channel Ponds

MKWC and the Karuk Tribe built two new ponds in Seiad Valley in 2014. With the addition of these ponds in the floodplains of key creeks, we have installed 12 off-channel ponds in total. The DeCoursey pond is the first of its kind in the

Horse Creek watershed, situated strategically on Middle Creek, a tributary to Horse Creek. Pond construction of this sort would not be possible without permission from landowners, and this pond project established a good relationship with Tony and Elke DeCoursey, laying the foundation for future pond projects in the vicinity. The Durazo pond up Seiad Creek also moved ahead with final federal permits to begin work and blessings from Al and Pat Durazo secured in 2014. Together the DeCoursey and Durazo ponds added 17,000 square feet of new winter rearing habitat for juvenile coho seeking slow water refuge.

Monitoring and Project Development

During 2014, fisheries crews conducted 185 field visits to 59 creeks and six off-channel pond sites during the 2014 field

season, to assess, monitor, and treat coho habitat. A total of 77 snorkel surveys were conducted for juvenile salmonids and 29 for adult salmonids. A 70% increase in juvenile coho presence was observed within our treatment area.

MKWC also conducted water quality, biological, structural, pond maintenance, and groundwater monitoring throughout the field season to inform future projects and restoration actions. We installed 19 wells in 2014 to monitor quality and quantity of groundwater as part of feasibility studies that contribute to development of future projects. Development of pond projects at Ti Creek, Aikens Creek, and Cherry Flat are currently underway in partnership with the Karuk Tribe and the U.S. Forest Service.



Beaver PAWS... Coming to a Creek Near You!

By Jillienne Bishop

Perhaps one of the best engineers of watershed resilience is the beaver (*Castor canadensis*). Beaver constructed dams slow the stream's water, spread it, and sink it. These slow-water pools help streamside vegetation flourish, increase rearing habitat for juvenile salmon, and mitigate drought associated impacts.

One of the highest priorities for watershed resilience in the Klamath is to protect cold water sources to prepare for climate change. Beaver ponds increase groundwater recharge, allowing water to reenter streams as cooler seeps. Summertime flows are also extended as beaver dams significantly slow snowmelt run off.

Another restoration priority for salmon in the Klamath is to increase access to high quality rearing habitats. The former extirpation of beaver and channelization of streams for mining and flood control has severely compromised the quality and quantity of slow-water rearing habitat. Beaver ponds provide easier foraging for fish, refuge from high winter flows, stable temperatures year round, and a plentiful food supply of macro-invertebrates. Studies indicate that juvenile salmon that use these slow-water rearing habitats exhibit higher growth and survival rates (Bennett et al., 2005).

In response, MKWC's Fisheries Program is planning to construct Post Assisted Wood Structures (PAWS) to mimic beaver dams, and to further attract beavers to build in the stream. Building beaver dam structures is a low-cost way to increase available slow-water rearing habitat. MKWC will install wooden fence posts across the channel and its potential floodplain surface, with a hydraulic post driver. Once the posts are constructed, long willow sticks are woven through the posts.

MKWC will begin prioritizing locations and constructing these PAWS in 2015. Project consultation is being provided by Dr. Michael Pollock, an Ecosystem Analyst from NOAA



Here is an example of a Post Assisted Wood Structure (PAWS) that has been constructed by the Scott River Watershed Council. These structures are the first of their type to be built in California and were constructed in accordance with the community's desire to improve Scott Valley's working landscape for the benefit of wildlife, fish, and human needs. In order to fully understand the impact of the PAWS, parameters being studied are ground water levels, water temperature, fish habitat improvements, and sediment retention.

Photo by Charna Gilmore, Scott River Watershed Council

Fisheries, and the architect behind most of the recent research and work about these wood structures. We are not the first group in the Klamath Watershed to construct PAWS. Beaver dam structures have been successfully constructed by the Scott River Watershed Council on the Scott River (See photo above).

Sources Cited:

Bennett, T.R., Garcia, P.S., Morley, S.A., and Roni, P. (2005). Juvenile salmonid use of constructed and natural side channels in Pacific Northwest rivers. *Canadian Journal of Aquatic and Fisheries Sciences*. Vol. 62, Issue 12, 2811-2821.

The MKWC Foodshed Program Presents

FREE Seasonal Community Workshops 2015

For more information about our program or workshops, Connect with us...

- Website www.mkwc.org/foodshed
- Facebook (Mid Klamath Food Shed)
- Event Flyers
- Phone 627.3202
- Email foodshed@mkwc.org

SPRING EVENTS (APR/MAY)

Annual Spring Seed Swap

Saturday, April 4th, 11am-2pm

Come and trade seeds with other local gardeners & learn about seed collecting.

Annual Mother's Day Plant & Craft Sale

Sunday, May 10th, 11am-2pm Orleans

Get presents for Mom! And come out to support local plant growers and artisans.

SUMMER EVENTS

Back to the Garden Summer Youth Program

(JUL/AUG—Dates TBA)

Garden and food based activities for youth and families. Farm visits, salsa making, arts and crafts.

FALL EVENTS (SEPT/OCT/NOV)

Community Harvest Potluck; Canning Classes; Community Apple Pressings

Please join us to celebrate the bounty of the season!

The Klamath Roots Food Project

More money for School Gardens, Kitchens, and Traditional Foods!

We are pleased to announce, with the Karuk Tribe Department of Natural Resources, we have been awarded one of 82 USDA Farm to School grants across the U.S.! The Klamath Roots Food Project is part of an ongoing Klamath Basin-wide effort to develop a sustainable food system through education, community collaboration and hands-on stewardship. The project involves approximately 330 youth in seven Mid Klamath River Schools (Weitchpec, Orleans, Jack Norton, Junction, Forks of Salmon, Happy Camp Elementary, and Happy Camp High School). With the new 2015 Farm to School funding, we will be able to provide more hands-on support for school gardens and kitchens and the Karuk Tribe will be able to continue traditional foods education.



The goals are: 1) Increase access to and consumption of Traditional foods (fish, nuts, berries, game) and fresh, locally grown, fruit and vegetables in the public schools and 2) Increase youth engagement in and knowledge of their local food systems. There are five key Project Components: 1) Local Foods to Local Schools Initiative (bringing local veggies to local kids). 2) Edible School Yard (school gardens and playgrounds). 3) Nanu'avaha ("Our Food") Karuk Traditional Curriculum and Gathering Trips. 4) Know Your Farmer Curriculum and Field Trips (to local area farms). 5) Back to the Garden Summer Program (Youth and Family garden-based activities).

The Klamath Roots Food Project is a community project. The project is designed to nourish health, improve self-confidence, revitalize culture, improve the natural environment, and help provide healthy school meals. Given the temperate climate and possible access to local and Native foods almost year round, we can incorporate fresh, healthy foods into our school menu and at the same time teach children about science and





nutrition, increase life skills, strengthen our economy, reduce our impact on the environment and increase the sustainability and vitality of our rural community.

Spotlight on Orleans Elementary School Garden

Way to grow Orleans Elementary School!! 2014 was a big year for the Orleans Community School Garden!



Spring & Summer

On a rainy day in April, the Karuk Tribe, Forest Service, garden coordinators and students gathered & transplanted an experimental patch of Indian Potatoes (*Dichelostemma* species) into the garden. You can go see them now, their new shoots beginning to poke out, as the rain soaked bulbs awaken from their drought sleep. The kids hope to eat them if the experiment is successful. The 6th, 7th, and 8th grade class grew veggie starts in the greenhouse (cabbage, kale, broccoli, lettuce, cucumbers, zucchini, basil, tomatoes, sunflowers, gourds, and pumpkins.) that were planted, harvested, and eaten with help from the After School Program. The class did a great job! In June, even though it was soooo hot we were able to harvest from the Salad Bar bed for school lunches. We also celebrated the “Grand Opening” of the garden to show off the new garden shed and rain catchment system installed on the roof. Thanks

to MKWC’s Summer Youth Crew who set up a new garden box, cleaned, sowed, and transplanted for the fall garden.

Fall & Winter

Kids were enthusiastic to be back in their garden to cleanup and harvest pumpkins they had planted. We planted much needed shade trees, edible native plants, garlic, and more lettuce and kale. Once the beautiful rain came, we made pesto, filled seed packets, made flower arrangements in gourds we grew, and made apple pies with local apples. We planted grapes, citrus, and raspberries, and started the green house again!!

Many hands have come together in this garden over time; sharing effort, materials, and know how. The cumulative effects of love and labor have created the garden we have now. Thanks for all who helped to make the garden a success!

To Get Involved

Join us in the garden Tuesdays at 2:30, Orleans Elementary School, or call for other area schools. For questions or volunteer opportunities; please contact Grant (grant@mkwc.org) or Ramona (ramona@mkwc.org) at the MKWC office 530.627.3202 or Lisa Hillman at Karuk DNR 530.627.3446 ext. 4.

We look forward to seeing YOU in the GARDEN!!

Foodsheds Webpages

If you’re wondering what to sow in your Spring garden and when, what to add to your garden soil, how to select fruit varieties for your site, or how to deal with those worms that are eating your cherries; then have a look at the MKWC Foodsheds webpages. More than 60 webpages include information on growing fruits, berries, nuts, vegetables in the Klamath-trinity region, including many booklets, charts and calendars available as free downloads. Have a look and send us your questions and/ or comments! www.mkwc.org/program/foodsheds



Restoring Native Plant Resilience

by Tanya Chapple

Resilience: 1. The power or ability to return to the original form, position, etc., after being bent, compressed, or stretched; elasticity. 2. Ability to recover readily from illness, depression, adversity, or the like; buoyancy.

Invasive plants are a symptom; an indication of a damaged or unbalanced ecosystem. They appear when disturbance, either human caused or natural, impair the ability of the native plant community to flourish. In addition, plants are very competitive and invasive plants often have an unfair advantage over native plants. Plants evolve closely with specific insects. These insects perform multiple functions, one of which is to limit the plant's reproduction or vigor by chewing on leaves, flowers, roots, and seeds. This limitation leads to increased biodiversity, where a larger amount of different plant species can occupy a space and each different kind of plant hosts several unique insect species. A variety of plants and insects provide food for a variety of birds, mammals, and reptiles, leading to a healthy diverse ecosystem. The advantage that invasive plants have over native plants is that they have arrived here without their insects, they have no limitations, and are able to produce more viable seed and grow more vigorously than the native plants around them. With invasive plants reproducing more and growing bigger roots and taller shoots, they quickly replace native plants by taking all the soil and light resources.

What's To Be Done?

The weeds are growing like weeds! This is when the human community can step in to support the plant community. We are part of this ecosystem and can help our native plants succeed by getting our hands dirty and gardening to maintain our wildlands. We can weed out specific invasive plants to create a better habitat for an increased diversity of native plants. We



Pulling Dyer's woad (Marlahan mustard) at the High Point Trailhead in the Trinity Alps Wilderness with Salmon River Restoration Council, Klamath National Forest, MKWC and volunteers.

MKWC hosts weekly volunteer events, Restoration Fridays, for much of the year. Many Restoration Fridays focus on increasing resilience of native plant communities, this includes weeding of invasive species, native seed collection and sowing, and planting and caring for native plant gardens. See schedule of events on page 10.

can do this with appropriately timed broadcast burns, create forest openings, or by mechanical or hand removal. Remember that invasive plants thrive with disturbance, so it is crucial to manage weeds soon after any disturbance-causing restoration activities such as burning and forest thinning, and to try to time the work appropriately with the plants lifecycle, paying attention to both the plants removed and plants promoted.

Programs to Help

The Mid Klamath Watershed Council has a native plants program and an invasive weeds program both working to restore and protect the plant communities of the mid Klamath. Our native plants program is truly blossoming. Currently, the focus is on education by hosting nature walks (see article on page 9) and through our involvement in the native plant demonstration garden at the Karuk DNR. We are expanding the program further to incorporate more planting and seed collection for MKWC's restoration projects. MKWC's invasive weeds program primarily works to weed out specific targeted species. The approach aims to prevent new species from becoming established, or existing species from getting into new areas. We do all of this with your help and with funding from various organizations. We are working in partnership with the Six Rivers and the Klamath National Forests and the weeds projects are also supported by the National Forest Foundation, the California Department of Food and Agriculture, and the National Fish and Wildlife Foundation. Our diversity of support allows us to achieve our goals over multiple national forests and counties. Most important is the involvement of our community members, without whose help we could not do what we do. Please join MKWC in our efforts to restore resilience to our plant communities and to our watershed.

Italian Thistle

by Tanya Chapple

Italian thistle is something to keep an eye out for this spring. It is a slender thistle hailing from the Mediterranean and coming our way from the coastal and southern regions of California and Oregon. It has delicate pink thistle flowers and is most noticeable growing in very dense patches. You will see it blooming in early spring, usually peaking sometime in April. By summer the plant has completely dried out and the dense patch has become a 4 foot tall thicket of a fire hazard. While this plant has become quite common in most of California, it is not yet prevalent in the mid Klamath. Italian thistle can be found in small patches along the highway 96 and the Klamath River. The seeds spread by the wind; burned areas, landslides, and overgrazed pasture are all particularly vulnerable to rapid colonization by Italian thistle. The good news is that plants that can spread rapidly can also reduce rapidly.

Appropriately timed mowing, hand pulling or grazing (if your goat doesn't mind horribly spiky plants) are all very effective means to

knock these plants back. Please keep an eye out for this insidiously invasive thistle. And if you find it (or other suspicious plants) please let us know! Email me: tanya@mkwc.org. Details like exact location, and a sample or photo are very helpful. Happy weeding!



Wild Enthusiasm for Native Plant Walks

by Tanya Chapple

In 2014 the Mid Klamath Watershed Council teamed up with the North Coast California Native Plant Society and held plant walks once a month from March through July. It was a wonderful opportunity for plant enthusiasts from the coast and the Klamath to converge. People came from as far as Fortuna and Happy Camp. We had more than 60 participants!

This was the first year that the Mid Klamath Watershed Council has hosted this kind of event; and the interest and attendance was inspiring. We are enthusiastically planning to continue holding native plant educational events in 2015 and beyond. Please contact Tanya Chapple (tanya@mkwc.org) for more information on upcoming wildflower walks.



A very pink form of houndstongue (*Cynoglossum grande*) on the Salmon River Trail in March.



Wild ginger (*Asarum hartwegii*) was blooming on Wooley Creek trail in April.



Carol Ralph, North Coast CNPS president, came to Fish Lake and shared her expertise.

Eating from the Garden All Year! Preserving Food by Canning

by Laurel Pena

Our local foods follow a pattern of seasonal abundance, with gardens and rivers that are generous at certain times of the year. Saving the abundance for lean times is an important part of our resilience. This fall, the MKWC Foodsheds program participated in three workshops sharing the skill of preserving food by canning. The workshops took place in Weitchpec, Orleans, and Happy Camp. Deborah Giraud of the UC Cooperative Extension demonstrated safe methods of water bath canning (for high-acid foods like most fruits) and pressure canning (for low-acid vegetables, fish, and meat). Everyone helped to prepare the recipes, wash jars, and operate the canners—showing that we are more resilient and have more fun when we work together on the big jobs! Thank you to our partners at the Yurok and Karuk tribes, and to all the participants for taking time to gain more experience in this vital skill.



Happy Camp
Canning Workshop

Canning Some Local Foods: Acid Content

Make sure you learn and follow all guidelines for safe canning. If you are canning a recipe that mixes foods (for example salsa) follow the recipe exactly to keep the right acidity.

High-Acid Foods

(boiling water bath OR pressure canner) pH below 4.6

- Pickles made with vinegar
- Apples
- Peaches
- Pears
- Grape Juice
- Berries (Blackberries, Strawberries, Huckleberries, etc)
- Tomatoes*

Low-Acid Foods

(pressure canner ONLY!) pH above 4.6

- Corn
- Beans
- Carrots
- Squash
- Mushrooms
- Meat
- Fish

* the USDA recommends adding vinegar to tomatoes because some varieties can be low in acid.

Restoration Fridays



Rudy Galindo and Stormy Staats get a big one at Dolan's Bar (*oblong spurge*).

enhancement, native plant gardening, restoration raft trips, weeding in the wilderness, and more! See below for upcoming events and contact Tanya Chapple or Jillienne Bishop for current details.

Come together and help to restore our watershed! These volunteer events are happening every Friday through the spring and summer. We started this volunteer program last year, it is a great way to get people together and positively impact our watershed. We already have a wonderful diversity of activities planned: coho salmon habitat

- **March 6th:** *Fisheries Workday: TBA*
- **March 13th:** *Planting Party at the Pananmik Building*
- **March 20th:** *MKWC's adopt a highway*
- **March 27th:** *Weeding around Orleans*
- **April 3rd:** *Fisheries Workday: TBA*
- **April 10th:** *Weeding & clean up on Ishi Pishi Rd.*
- **April 17th:** *Weeding at Ullathorne River Access*
- **April 24th:** *Weeding & clean up on GO Rd.*
- **May 1st:** *Fisheries Workday: TBA*
- **May 8th:** *Native Plant Garden Workday*
- **May 15th:** *Knapweeding in Weitchpec*
- **May 22nd:** *Weeds Raft Trip –Ullathorne to Big Bar*
- **May 29th:** *Weeds Raft Trip—Big Bar to Weitchpec*
- **June 5th:** *Fisheries Workday: TBA*
- **June 12th:** *Weeding in the Trinity Alps at High Point TH*
- **June 19th:** *Weeds Raft Trip—Ullathorne to Big Bar*
- **June 26th:** *Weeds Raft Trip– Big Bar to Weitchpec*
- **July and beyond:** *Please contact us!*

PANAMNIK BUILDING

Moving Ahead At Last!

Phase II at the Panamnik Building

by Michael Stearns

After years of fundraising to make the amphitheater behind the Panamnik Building possible, and over a year of getting permits in place with the County, the agencies, and the Tribe, MKWC is finally breaking ground this Spring!

The diesel contaminated soils in the amphitheater area were tested and came back clean. MKWC accomplished this, with funding from the County of Humboldt, by working with mycoremediation experts and community volunteers to decontaminate the soil using fungi. Having the permits and clean dirt finally in place, we will start the amphitheater project with erosion control measures. MKWC has also begun to make other improvements to the Panamnik Building, which serves as MKWC's headquarters, home to our local post office, the Klamath Riverkeeper, and a thriving community center.

An electrician has begun re-wiring our building, including energy efficient LED lighting, to make it more safe and user-friendly. Meanwhile, plans are forming to renovate the building's back entrances and bathrooms in 2015.

We had a plumbing disaster this fall and had to replace all the existing water supply plumbing. All the pipes were very rusty 1950s era plumbing and could break if you looked at

it wrong. We upgraded to modern PEX plumbing including a new water meter with the help of the Orleans Community Services District. This summer we poured a concrete slab for our new equipment shed, which was recently erected. The long-anticipated new shed will provide storage for our tractor and all the equipment for our various programs. This new housing for our stuff helps us to be better organized and to streamline operations.

Looking ahead

MKWC has accepted pro bono services of an experienced architect. With his help we are developing plans for a major remodel of the Panamnik Building. We are seeking funding for this large project, which we hope to complete within the next five years.

Want to get involved or support the Panamnik Building Project? Please get in touch with Panamnik Building Director Michael Stearns at michael@mkwc.org or (530)627-3202 to see how you can help. This really is a space by and for the people, and we couldn't have come this far without the ideas, labor, and support of many community members. THANK YOU! We are so excited to at last be moving forward. Now onward and upward!



New equipment shed

River Communities Learning Together, Burning Together

River Communities Learning Together, continued from page 1

Even deeper still is the reason why the head of the largest firefighting force in the world would go out of his way to support this early fall burning in the hinterlands of California. Rewind to the summer of 2001, another severe drought year in Northern California. Near the end of summer, an arson fire was lit on a windy afternoon along the Klamath River in the middle of the small town of Orleans. A seemingly idyllic valley framed by high mountain peaks, Orleans represents both the hope that comes from people being isolated enough to have to depend on each other, but also the sadness and dysfunction of boom and bust rural towns across the West. Front and center here is the ongoing struggle of the Karuk Tribe to restore their culture in the aftermath of the Gold Rush genocide.

This fire, named the Dance Fire by agency dispatchers with little cultural sensitivity, was lit near the Tshanik Ceremonial Grounds where the Karuk had brought back the White Deerskin Dance, one of a series of annual World Renewal Ceremonies. Historically, this fertile river bar was burned every year: after thousands of years living here the Karuk had an impeccable sense of what we now call defensible space. But

defensible space was almost a byproduct of maintaining the cultural landscape. As fire ecologist Frank Kanahwa Lake described it, that landscape was their grocery store, their hardware store, their church.

But these cultural burns had not taken place for a century, and so, in 2001, this fire quickly spread with the upcanyon wind right to the edge of town. The suppression force honed, if not perfected here in this land of frequent fire (caused by both arson and lightning), sprang into action. Retardant drops from the river's edge to the highway along Gold Dredge Road saved the homes on the other side, and ground forces backed up by helicopter water drops put out spot fires as they crossed Highway 96.

The fire was kept to a mere 40 acres on Orleans Bar, but it opened the community's eyes to the threat, not from campaign fires marching steadily towards town for months, but from fast moving fires within the valley itself. The recently formed Orleans Somes Bar Fire Safe Council rode this wave of fire prevention consciousness to enlist many of the town's residents in the coming years to allow brushing to occur on their properties. Unfortunately, the timber operator who



A TRESX night burn in the Peach Creek neighborhood in Orleans was well received by the community, who couldn't help but notice.

Photo Credit: Scott Harding



The 2013 Orleans “Dance” Fire was ten times larger than the 2001 fire. It burned a tribal elder’s home, and galvanized the community around the need to restore cultural burning practices on Tshanik.

Photo Credit: Thomas Dunklin.

somehow acquired ownership of the Tshanik ceremonial area was not interested in fuel reduction above and beyond a hasty salvage operation to cut the merchantable trees.

Fast forward to 2013. Another drought year. Another arson fire at Tshanik that was again immediately dubbed the “Dance Fire”. But this time the winds were stronger, the fuel drier than before, and the fire swept across Highway 96, burning through the center of town. Heroic efforts by residents and firefighters alike caught the fire that night around 450 acres, with no fatalities and only one home lost. At the community After Action Review for this fire, long-time volunteer fire chief Tom Bouse called everyone out for letting this happen again. Bill Tripp, the Eco-Cultural Restoration Specialist for the Karuk Tribe, responded in his usual quiet voice that if the Tribe had been able to manage this area with prescribed fire, neither of these wildfires would have even been possible.

As fate would have it, the property was sold to the Tribe the next year, just as burn units were being laid out for the fall 2014 Klamath River Prescribed Fire TRES. Tribal fire managers worked with the Incident Management Team for the TRES to create a burn plan and establish containment lines. In a nod to tribal sovereignty, the Fire Safe Council requested the necessary LE-5, LE-8, and air quality permits from the state. Leading up to the burn, the Fire Safe Council conducted extensive community outreach, including door-to-door notifications, which demonstrated overwhelming support for restoring intentional fire in the Orleans Valley. Of the 50 residents interviewed, 48 were supportive of the burn, and one of the detractors came around in support of the burn after it was implemented.

On the day of the Tshanik burn, over 60 firefighters gathered for the morning briefing at the old grocery store in the center

of town that now houses the Fire Safe Council, the post office, and several other non-profits, but was doubling for the 10-day TRES as the Incident Command Post. The fatawanun, or medicine man in Karuk language, for that year’s White Deerskin ceremony, talked about the role fire plays in ceremony. “The smoke from the fire is what carries our prayers up into the sky so the creator can hear them,” he said. “It is important to think good thoughts; for your families, your fellow firefighters, for the land, as you put fire on the ground.”

Hanging from a string over his shoulder, he carried a carved elk horn for packing the fire as Karuk men had done since time immemorial. Inside, a coal smoldered in a bed of tinder. Six hours later, when the resources were all in place at the unit, and the grass had dried in the heat of mid-day, he took the coal from the elkhorn, laid it on the tinder in the grass, and blew. As the sound of the fire crackling grew louder, and the wisp of smoke rose up, a Bald Eagle flew low and silent directly overhead. Jackie Goodwin, the Tribe’s Self-Governance Director, and Aja Conrad, a tribal member who just graduated from UC Berkeley, were participating in the TRES and were asked to spread the fatawanun’s fire into an adjacent stand of willows along the banks of the Klamath River. Traditionally, Karuk women managed these very same willow stands for basket materials, using fire to trigger the kind of growth they needed for basketmaking. To this day, Karuk baskets are among the most prized globally for their quality and artistry.

The 84-acre burn at Tshanik was the largest ignited during TRES, and significant in that it was the first time in more than a century that the Tribe was able to restore cultural fire use here without persecution. A CALFIRE engine from the Elk Camp station on Bald Hills came out to provide holding support along Gold Dredge Road where the wildfire the



Karuk Tribe Self-Governance Director, Jackie Goodwin, brings fire back to willow stands along the Klamath River to enhance the quality of basket materials. *Photo Credit: Will Harling.*



Only a year after the 2013 Orleans “Dance” Fire, the Klamath River TRES brought intentional fire back through the fire footprint and the Tshanik ceremonial grounds. *Photo credit: Jenny Staats.*

summer before had come so close to burning nearly 50 homes. This controlled burn symbolized for many present the dawn of a new era of prescribed fire use for both community and cultural protection.

The 2014 Klamath River TRES as a whole demonstrated how diverse groups could come together to safely bring fire back to the Wildland Urban Interface where it has been long absent, and provides an example of how we can create the structure to increase the scope and scale of prescribed burning in rural communities across the West. Utilizing the Incident Command Structure, and adhering to NWCG training standards, federal, state, tribal, conservation groups, and local partners including private contractors and volunteer fire departments were able to both learn together and burn together. A recent memorandum of understanding between U.S. Forest Service Region 5 and the Nature Conservancy provides the framework for burning across public and private boundaries to achieve the goals of the National Cohesive Wildland Fire Management Strategy. Unfortunately, due to the burn ban, TRES organizers couldn't obtain a permit to burn the 500-acre unit on Forest Service lands, so the 240 acres of burning accomplished was kept to private lands.



The 2014 Klamath River TRES provided training opportunities for 19 locals, and 40+ participants from around the U.S. and the globe.

A highly qualified overhead team that included two Type I and six Type II burn bosses, a lean but dedicated planning team, and mid-level experienced firefighters from Firestorm Wildland Fire Services, Inc. helped train the 19 participants who completed their basic firefighter II training on the first day of the TRES. Two RxB II's from the Forest Service came all the way from Utah's Wasatch Mountains for the opportunity to make progress on their Task Books. One of these TRES trainees, James Turner, said “we got more burn boss and trainee assignments in the past 10 days than we have in the last five years on our home unit.” Jose Tenorio who works for the Bureau of Indian Affairs in New Mexico, came from Albuquerque, and successfully completed his RxB II task book on this TRES. “I want to bring my whole crew out next year to learn about burning in mixed conifer forests,” he said. “And you are all more than welcome to come to my pueblo any time!”



What looks like a home about to be lost to wildfire is actually a home being protected by a controlled night burn near Orleans, CA.

TRES organizers plan to create a Type III Incident Management Team to implement the Fall 2015 Klamath River Prescribed Fire TRES. Bill Tripp, with the Karuk Tribe, envisions a future where this local Type III team can be utilized for local wildland fires when needed, but is primarily focused on making the best of every fall burn window to bring good fires back to the WUI before the bad ones come. With seemingly endless drought, it is a daunting task, but local landscape level planning efforts through the Western Klamath Restoration Partnership provide a framework for how this can be done across their 1.2 million-acre planning area. By strategically implementing manual and mechanical fuels treatments directly around homes and infrastructure, in addition to linear treatments along roads and existing fuelbreaks, we can garner public support for prescribed burning through the TRES structure on a much larger scale.

Nearly \$2 million in funding for the Partnership from the Forest Service and others has been allocated over the next year to begin planning for large scale projects around the communities of Happy Camp, Somes Bar and Orleans. An

The WKPR: A Landscape Scale Vision for Bringing Good Fire Back to the Klamath Mountains

The Western Klamath Restoration Partnership is creating a path toward collaborative fire management in the Western Klamath landscape. It arose from a desire by the Karuk Tribe, the Mid Klamath Watershed Council, the U.S. Forest Service, area Fire Safe Councils, environmental groups, and other community-based stakeholders to explore what fire management could be like using a collaborative planning model. This is an inclusive process and we encourage everyone who has an interest to get involved in the WKRP meetings that will be happening quarterly over the coming year. The next one will be February 17-19, 2015, in Orleans, CA, with subsequent workshops in April and July. Email will@mkwc.org to get on the WKRP list serve for future updates.



Fire Operations Specialist David Medford inspects Firefighter II trainees for proper shelter deployment. In total, 19 local FFT II's were certified through the TREX.

Photo Credit: Will Harling

interdisciplinary team including staff from the Forest Service, Karuk Tribe, Mid Klamath Watershed Council, and others will help to expedite treatments on 5,000 acres of public and private lands, while preparing for programmatic analysis required by the National Environmental Policy Act on a larger 50,000-acre treatment area in the Western Klamath in years to come.

Key to the success of this model is public support. Only when residents feel safe, when they have good fuelbreaks around their homes and valued resources, can we begin to tackle the fire debt from a century of fire suppression in the WUI. The TREX model has the potential to expedite creation of these fuelbreaks and allow fire managers more options for controlled burning, as well as fire suppression actions when needed.

In the After Action Review at the end of the TREX, many shared how powerful the experience was for them. "Life after

TREX just isn't the same," admitted Sam Berry. Berry, a local who fulfilled a firing position directly below his home that had been built by the Red Cross after being lost in 1987 to a wildfire, is working on his Firefighter I task book and has signed up for more Nature Conservancy sponsored training exchanges around the country.

Jeremy Bailey, the originator of the TREX model with The Nature Conservancy and the Fire Learning Network, showed up for the last two days of the event. "This is a life dream to be able to work with communities and get fire back in the hands of the people who have had fire taken from them," he said. Tripp couldn't agree more. "It was great to start to turn the corner from where we have been for so long around here. It's phenomenal. This TREX is making it start to come together. You are all a part of it and that's a great thing."

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Reinstating Historic Fire Regimes

by Nancy Bailey

After trotting along steadily for a decade, MKWC's Fire and Fuels program, otherwise known as the Orleans/Somes Bar Fire Safe Council (OSBFSC), seems to have broken in to a full gallop lately in using fire for upslope restoration. The recent successful Klamath River TREX program and continued planning efforts for landscape scale restoration treatments through the Western Klamath Restoration Partnership are moving us quickly toward the lofty goal stated in our mission of reinstating historic fire regimes.

While policy shifts and economic analyses in favor of using prescribed fire in these watersheds are welcome and timely, a critical part of the equation is how prepared and fire resilient our rural communities are. Whether wildfire or prescribed fire, we can expect to see more of it in our backyards in the years to come.

A Fire Resilient Community is a Firewise Community

The communities of Orleans and Somes Bar are doing very well in the ongoing process of becoming fire safe and fire ready. With our relatively new "Firewise Community" status (Firewise is a program of the National Fire Protection Association (NFPA); www.firewise.org), an energetic Firewise Board, with representation from the Orleans Volunteer Fire Department (OVFD), the Karuk Tribe, OSBFSC, and MKWC, coordinated over ten separate educational events through the spring and summer. Activities involved many volunteer hours and have been partially funded by Humboldt County, NFPA, and PG&E. Through a variety of events, hundreds of community members have been exposed to fire-safe principals and techniques, many participating as volunteers.



Lower Camp Creek Demonstration Project Crew

Mission Statement:

The purpose of the Orleans/Somes Bar FSC is to help plan, implement, and monitor the reinstatement of historic fire regimes primarily through the use of strategic fuels reduction in a manner that protects life and property, improves forest health and enhances the resources valued by its stakeholders

2014 Firewise Highlights included:

- Orleans was awarded a Firewise National Grand Prize of \$5,000. Funding from State Farm Insurance through the NFPA has been administered by the OSBFSC and used for Firewise activities throughout the spring and summer.
- OVFD held several neighborhood meetings to demonstrate and review water systems, hydrant locations, hydrant hook-up fittings, and evacuation procedures.
- Hydrant Painting: In small groups, three classes from Orleans Elementary discussed fire emergencies and why hydrants and stand pipes need to be visible, not obscured by grass or weeds, and bright, so that a fire truck can immediately see it. They then designed and painted eight hydrants in Orleans (see photo next page).
- Demonstration Clean up and Fuels reduction project on Lower Camp Creek Rd: Landowners, neighbors, community volunteers, and the Hoopa Tribal Civilian Community Corps teamed up with OSBFSC to clean up junk and remove dangerous fuels from around a home.
- OVFD and Klamath Salmon Media Collaborative produced Firewise Success Story Video. (www.youtube.com/watch?v=QiP2roGaNck)
- The annual Firewise Day was held in conjunction with the traditional Orleans Father's Day parade. All parade entries focused on aspects of being firewise. OSBFSC was the winner of the float contest, with a little demonstration house showing proper fire wise clearing, gutter cleaning, etc., and a tractor with "mow for fire safety" on the side. There were people marching before and after the float with signs saying "Is your home fire safe?" "Do you know your evacuation plan?"
- Also on Firewise Day, OVFD, and CALFire coordinated bringing an educational "House on Fire" trailer in which kids learned what to do in a fire emergency.
- Eight new street signs were installed in Orleans and Somes Bar for the sake of emergency responders.

- Construction of Hose boxes is now underway to be installed with fire hose and demonstrated in selected neighborhoods.
- With funding from PG&E, three Fridays in the fall were Community Chipper Days. Several landowners were able to take advantage of free chipping on their properties.

This winter and spring MKWC is coordinating mechanical fuels reduction (brushing) on more acres than ever. Through funding from the USFS, USFWS, CAL FIRE, and Humboldt County we are planning to brush almost 150 strategic acres in and around the communities of Orleans and Somes Bar. To this end, we have hired twice as many seasonal brushing crew members as usual and are working to train and equip them for several months of this important work. Participating landowners, recognizing the necessity of fuels reduction and the return of fire to the area, are thrilled with the work and offering many hours of their own volunteer labor and use of equipment on the projects. As a participating landowner Michael Korejko commented “It was a pleasure and an honor to have the Fire Safe Council crew come and work at our place this winter. In two weeks, we were able to transform ten acres above our home from an extreme fire hazard into an open,



Kids around their painted hydrant in Karuk housing.

diverse, and healthy forest. Instead of just worrying about when the next fire comes, now we’re in a position to be able to reintroduce fire here back into the landscape. It was great working with the crew and exciting to see what’s possible when people from the community get together, work hard, and make things happen. Many thanks to the crew and the Fire Safe Council!

Community Participates in Firewise Demonstration Project

Clean-Up and Fuels Reduction in Orleans

Nancy Bailey

In the aftermath of the frightening Orleans Fire in the summer of 2013, the lower Camp Creek neighborhood recognized how vulnerable it was and how lucky it was to have been spared.

The first house in the tight row of houses had been well prepared, with clean defensible space recently created by Dennis and Mayme Donahue (see YouTube video www.youtube.com/watch?v=QiP2roGaNck). Had that not been the case, each of the successive houses would likely have been lost, since the second house had brush growing right up under the front porch and against the siding.

It was with this understanding that the Orleans Firewise Board, a group with representatives from the Orleans Volunteer Fire Department (OVFD), the Orleans/Somes Bar Fire Safe Council (OSBFSC), and the Karuk Tribe’s Office of Emergency Services, approached the owners of the second house in the row, the old Allen place, with the idea of cleaning up and reducing fuels as a community demonstration project.

Over the years, the property had accumulated quantities of junk that brush and blackberries had grown through, creating an overwhelming and discouraging situation the family had been wanting but unable to deal with. The Allens were game and Alme Allen jumped in with both feet to co-coordinate with Nancy Bailey of the OSBFSC, a community event to fire-safe the vulnerable house and property.



During the two-day event on May 2nd and 3rd last year Allen family members, friends, neighbors, OSBFSC crew members, and interested members of the community joined forces to accomplish a heroic feat. Prior to doing the brushing, the group had to remove multiple loads of tires, scrap metal, and appliances, as well as quantities of material slated for the Hoopa transfer station. Local business owner Tommy Horn supplied a loader and dump truck, Alme brought a large trailer, others brought chainsaws and hand tools. By the second day volunteers hauled away the last of the junk and monitored a large burn pile of slash from the clearing.

The event was partially funded by a Humboldt County Title III Firewise grant, and was successful only because of its truly collaborative nature. Given the critical mass (over twenty five people pitched in over the two days) of good natured and energetic workers and the high spirited motivation of the family themselves, the transformation of the property was unbelievable.

The Allens realize that much work still lies ahead, as the blackberries try to regrow, and since the house needs work. But in general they were thrilled to be supported by the whole community in this way, providing them with a giant jump start and momentum towards restoring the property and fire-safing the whole neighborhood.

Youth Activities

2015 Klamath-Siskiyou Outdoor School

The Klamath-Siskiyou Outdoor School (KSOS) is a cost-free week long camp for local youth ages 11-14 in the Mid Klamath region. Campers will participate in a variety of outdoor activities including, rafting, backpacking, fisheries restoration, outdoor survival skills, kayaking, and paddle boarding. Backpacking equipment can be provided upon request. For more information, or to apply to KSOS, please contact Carol Earnest at the MKWC office at (530) 627-3202, email carol@mkwc.org, or visit the MKWC office in the Orleans Panamnik Building.

Monday June 22nd-Friday June 26th: Ages 11-14

2015 MKWC Youth Restoration Raft Trips

MKWC has been offering cost-free restoration raft trips to local youth every summer since 2006. Youth participants learn about the ecology of their local river while participating in activities such as fish passage improvement, snorkeling,

juvenile fish identification, and invasive weed removal. MKWC offers these trips to local youth, free of charge, through our licensed and insured raft guides, the Klamath River Outfitters. If you want to find out more information, or sign up for these trips, please contact Carol Earnest at the MKWC office at (530) 627-3202 or email carol@mkwc.org. There are only 20 spaces available per trip, so sign up soon!

Happy Camp Restoration Raft Trip

Friday July 10th: *Indian Creek to Ferry Point* Ages 9-12

Orleans Restoration Raft Trip

Friday July 17th: *Ullathorne to Big Bar* Ages 7-9

Somes Bar Restoration Raft Trip

Friday July 24th: *Persido to Stuarts Bar* Ages 9-12

MKWC would like to thank our funders the National Forest Foundation, Humboldt County RAC, U.S. Fish and Wildlife Service, and CA Department of Fish and Wildlife for making these cost-free trips possible. Additional thanks to project staff, volunteers, and our Klamath River Outfitters raft guides!

Summer Jobs on the Klamath!

By Jillienne Bishop

The Mid Klamath Watershed Council (MKWC), is continuing its sixth year coordinating the stewardship intern program, a unique employment opportunity for local teenagers to hike on rugged wilderness trails, snorkel in cold creek waters, eradicate invasive weeds, and improve Klamath River salmon habitat. MKWC's stewardship intern program is a youth employment program that runs for six weeks in the summer. Interns receive California minimum wage and have the opportunity to participate in local projects that help them develop natural resource career skills. MKWC anticipates having the funds to hire six to eight interns for the upcoming 2015 season.

Interns who participate in this program will strengthen their college applications by participating in environmental and community revitalization. For those not attending college, interns will develop skills that will enable them to participate in the local restoration economy that has been growing throughout our watershed.

Interns must be between the ages of 15-18 years of age. Stewardship Interns work four days per week on a variety of projects including:

- Fish passage improvement
- Fish habitat improvement
- Snorkeling and fish identification
- Removing Invasive Species
- Monitoring invasive plants in wilderness areas (backpacking)
- Native Plant Garden maintenance
- Working on community and school food gardens



MKWC's 2014 Stewardship Intern Crew removing high priority invasive weeds in the Rock Creek drainage. Pictured from left to right: Nia Rogers, Johnathan Markin, Maya Mollier, Geena Talley, Tanya Chapple (Invasive Weed Site Leader), Alyssa Allgier, Antonio Escalderon, Lewis Olsen, Jared Wilder, and Jillienne Bishop (Program Director).

Applications will be made available on April 1st at the MKWC office. All applications must be submitted by May 1st, 2015. MKWC encourages applicants from the communities of Weitchpec, Orleans, Somes Bar, Happy Camp, and Forks of Salmon, provided they have transportation to the MKWC office in Orleans Monday-Thursday. Priority for hire is given to those who have been previous interns, have previously participated in MKWC's Watershed Education program, and those who meet requirements designated by our funders such as Karuk Tribal TANF. MKWC is excited to continue this program and is looking forward to further developing local youth crews in the years ahead!

The Pacific Fisher

by Heather Campbell

The Pacific Fisher (*Pekania pennanti*) is mature-forest dwelling mesocarnivore. The size of a domestic feline, it feeds on small mammals, reptiles, plants, and berries, and is a natural predator of the porcupine. Fishers are a member of a mustelidae family that includes weasels, martens, and otters, and can be found in different forested habitats and ecosystems. There are two remaining original native populations of fishers in along the west coast, one in Northern California/Southern Oregon and one in the Southern Sierra Nevada's of CA (USFWS). Fishers live and breed in the cavities of large trees and snags. Human activities have contributed to a severe contraction of the range along the west coast. Contributing factors include: habitat loss due to timber harvest and land development, wildfire and fire suppression, trapping, and rodenticides. Climate change is also considered to be a factor, but direct and indirect impacts are not yet fully understood (USFWS).

Last October, after ten years of monitoring and research, the U.S. Fish and Wildlife Service (USFWS) announced a proposal to list the West Coast Distinct Population Segment of fisher as threatened. Currently, the more urgent of the threats is rodenticide poisoning. Used in marijuana cultivation on public and private lands (see graphic below), fishers are at risk of secondary exposure when they consume the small mammals that have ingested the toxicants. Generally these illegal grows are in remote areas that are hard to access, and finding and eradicating them can be extremely difficult.

Decreased habitat and cavity trees, and threat of wildfire are also obstructive to fisher recovery. Prescribed low-severity fire has



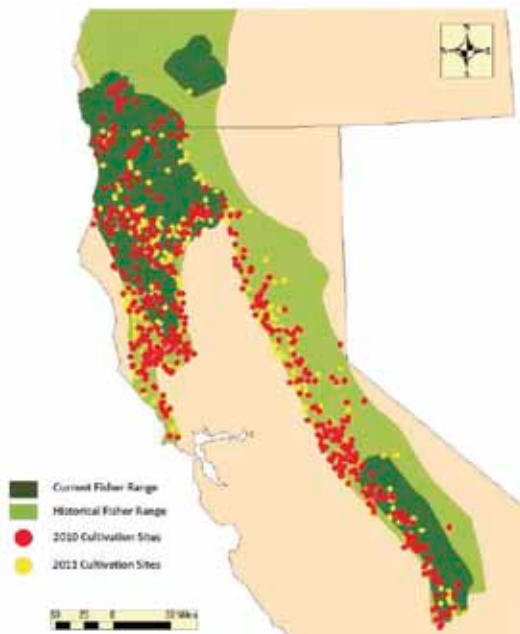
Pacific Fisher near Ishi Pishi Road photo by Will Harling

been proposed as one solution to restore habitat. While fire can create and maintain the cavities needed for the breeding dens, it also requires costly mitigation treatments to protect existing cavity trees. Suppression of fire creates the habitat of increased tree density preferred by the fisher, but increases the danger of high-severity wildfire to the same habitat.

Hunting and trapping throughout the Pacific Northwest in the late 1800's and early 1900's has also contributed to significant population decline from Canada to California. Though controversial, fur-trapping has provided historical location information and a basis for evaluating potential population range and abundance. While this decline is evidenced through range contraction in the Upper Pacific Northwest, it is less well known exactly how fishers have declined in the Klamath-Trinity Mountains (Lake).

Culturally significant, local tribes harvest fishers for use in world renewal and healing ceremonies, and hunting quivers. Dr. Frank Lake, a USFS research ecologist, stated that some tribal elders believe that compared to the historical territory in the local western Klamath Mountains, fishers may be now more abundant than they have been in the past. The idea is that fire suppression has actually led to over-densification of forests, increasing favorable habitat. This conflicts with broader trends for the Pacific Northwest as a whole and overall researchers are unsure locally how historical to contemporary populations have changed. Data to provide a basis for population assessment and for determining the status of the species is still being accumulated.

In the ten years since the fisher was first listed as a candidate species for Endangered Species Act (ESA) protections, local tribes and agencies have been gathering data and information to complete the ESA listing analysis. The USFWS, USFS, Humboldt State University, and the Hoopa Tribe have been using genetics and capture-mark-recapture methods to track and monitor populations in the Klamath and Trinity Mountains. This information will allow them to gauge population densities and trends for particular areas. The USFWS will be making their decision on listing the fisher as threatened after the scoping period ends Feb. 4th. For more information visit www.fws.gov/cno/es/fisher.



Marijuana cultivation on public and private lands in relation to Fisher range, both historical and present.

Figure courtesy of Mark Higley, Wildlife Biologist for HVTF. 2013.

Are You a Visionary?

by Luna Latimer

Are you a visionary? Someone recently asked me if I tend to see the forest or the trees. For me it's the trees. Though this may not sound like a visionary response, I see a lot in the trees. I see fire scars, burls for woodworking, fruit and nuts to feed my family, board feet, and firewood, all from the trees. Every other year MKWC has a board and staff vision meeting. As the pragmatic person that sees trees, this time can be a struggle for me for I also see workplans, bank balances, and reports that can't just be put aside as we envision. As my time for visioning approaches, I ask you: what is your vision for this place?

As a native Jeffersonian from a working-class ranching and logging family, the "vision" for this place was not first and foremost on my mind. I came to Orleans/Somes Bar over a decade ago as a graduate student at Oregon State University wanting to learn more about how we can build a working landscape. For my family, as logging work moved to mill work and mills closed down, there were lean years. My parents are proud and have an incredible work ethic but would admit that in lean times when jobs were scarce, it was the abundance of this place that kept us going as a family. We live in an amazing place where we can get food from the forests and rivers that surround us. I wanted to know how we can sustain and be sustained by this place. I would like to say this was out of some amazing vision, as if I could really see the forest, but it was really about jobs. Good jobs. Good local jobs working the land and its abundance in a way that would continue throughout time. The kind of opportunities that give you comfort knowing that your grandkids will do OK here when it comes time for them to work. Jobs that were in a bigger service to the land and community.

A long time later, I think about my vision and it is still about jobs. Specifically, it is about people who want to work. I may not see the forest, but I see each MKWC employee. I see each applicant. I see each volunteer and each active landowner. I see each MKWC employee going out the door for field work and each one in the office, doing a job for community-based values. I see this abundant place that has the potential to be a working



Fisheries Crew and Stewardship Youth Intern Crew working to re-channelize the mouth of Dillon Creek

landscape with working people. Over the past five years, there has been a remarkable increase in the number of applicants for each job MKWC has advertised. Last year MKWC employed 64 people. Most of these people were employed for as many hours as they wanted to work. It makes no difference to me if you clean toilets, pile brush, create fish habitat, take kids backpacking, or pay the bills that keep the lights on—I respect all of the people who are working hard to make a difference in this place. These jobs that I see aren't just MKWC jobs. They are the childcare providers (bless you!). They are the schools: the teachers, the janitors, and the people that build the schools. They are the businesses that stock healthy food for us to feed our families and the farmers and ranchers who sell their food to our local stores. I appreciate the gas stations that fuel our vehicles, equipment, chainsaws, and generators.

My vision for MKWC is about offering people opportunities to be involved. For a lot of us that involvement involves a paycheck. I see a lot of mortgage payments and grocery bills. For some that involvement is volunteering at our Restoration Fridays or in The Native Plant Garden. Please come see what it is that all of these employees are doing by going out in the field with them (see calendar on page 10). I hope that this involvement includes more jobs based out of Happy Camp. It is my personal goal to open a fully functioning Happy Camp office this year—a new seedling so to speak. My vision is for more jobs in the woods associated with the Western Klamath Restoration Partnership for years to come. As for me, my job is to make every employee's job better so that they can work to nurture and be sustained by this amazing place called the Middle Klamath. I can't think of any job more true to my vision. Why do I find so much joy in just helping other people do their jobs? Perhaps I find comfort in surrounding myself with people that not only see forests, but see watersheds and ecosystems. I ask you again, what is your vision? I can only see the trees, so please let me know what you think. Email me at luna@mkwc.org.



MKWC Brush Crew 2014

MKWC 2014 Organizational Overview

Overview

MKWC has steadily grown over the past decade, with a dramatic jump in the size of our organizational budget, staffing levels and infrastructure in 2014.

The growth is an indicator of both watershed restoration opportunities and MKWC's ability to capitalize on those opportunities to create jobs for local people and a needed hub for positive activity in our community.

Restoration Economy

Since 2002, MKWC has paid about \$2.5 million in wages, for work totaling more than 140,000 hours put in to restore the Middle Klamath watershed.

In 2014, MKWC employed 64 people and brought more than \$123,000 in restoration contracts to our area, with a budget surpassing \$1 million for the first time ever (that's more than triple where we started).

Employees represent a cross section of the people who live here in the Middle Klamath—a diversity of ages, cultural backgrounds, experiences, and skill sets that exist in our area. Job opportunities at MKWC make life in the rural Klamath

mountains a real possibility for young people who might otherwise leave. This up and coming restoration economy also puts local knowledge to work for the common good and establishes a trained local workforce.

Human Resources

With the larger budget and expanded programs, MKWC has hired new employees in 2014, including a staff writer, a water monitoring coordinator, a new Watershed Education Coordinator, and four new Administrative Assistants.

The size of our Fire and Fuels and Fisheries staff and crews have more than doubled.

Infrastructure

Our organization owns two vehicles used for fuels work and plans to purchase another. We also plan to open a Happy Camp office in 2015, thus expanding the reach of our operations and ability to hire and retain employees from the upper Mid Klamath sub-basin. We are maneuvering to acquire office and field equipment to outfit the new office, as well as another plotter (we have overworked our old one to the point of total breakdown) so we can put our work in geographic context.

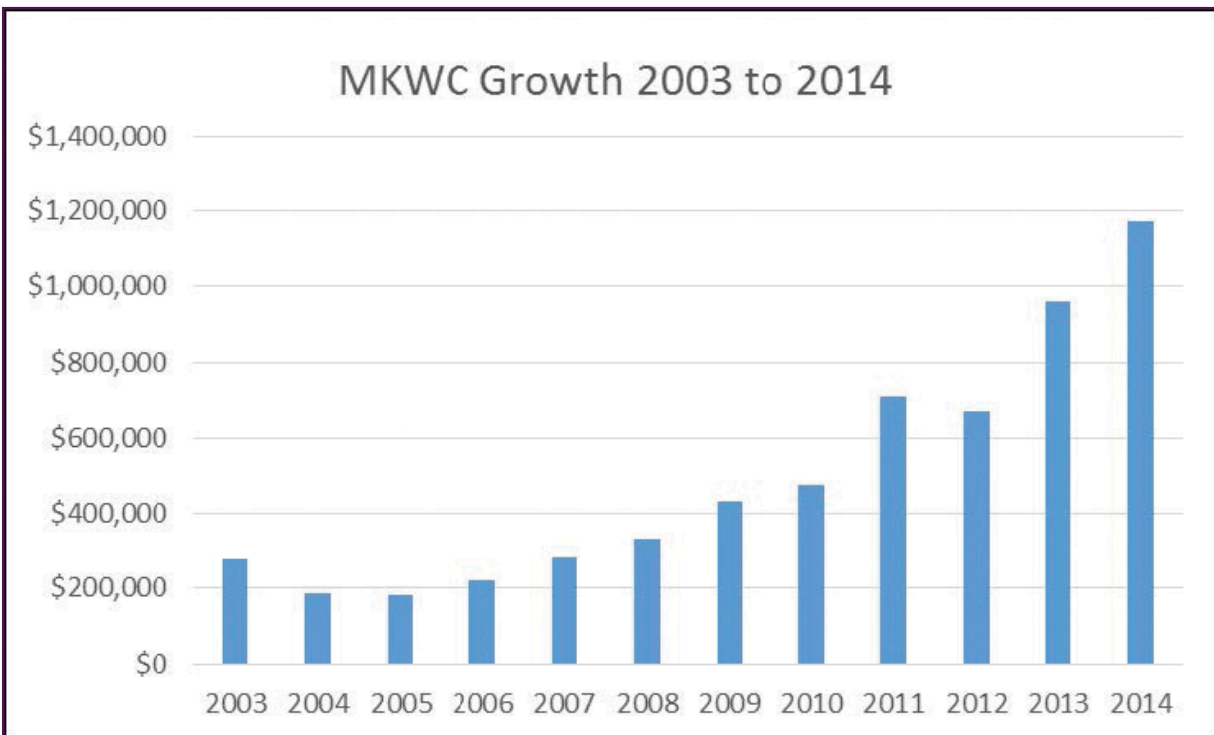


photo Trees Foundation archives

Directors

Will Harling, *Executive Director, Fisheries Program Co-Director, Fire and Fuels Program Co-Director*

Luna Latimer, *Associate Director*

Charles Wickman, *Fisheries Program Co-Director*

Jillienne Bishop, *Watershed Education Program Director, Fisheries Project Coordinator*

Mark DuPont, *FoodSheds Program Director*

Michael Stearns, *Panamnik Building Program Director*

Nancy Bailey, *Fire and Fuels Program Co-Director, Native Plants Program Co-Director*

Ramona Taylor, *FoodSheds Program Co-Director*

Tanya Chapple, *Invasive Weed Management Program Director, Native Plants Program Co-Director*

Erica Terence, *Outreach and Development Program Director*

Project Coordinators

Carol Earnest, *Watershed Education Project Coordinator*

Chris Root, *Fire and Fuels Project Coordinator*

Grant Gilkison, *FoodSheds Outreach Coordinator*

Jennifer Silveira, *Fisheries Project Coordinator*

Jimmy Peterson, *Fisheries Project Coordinator*

Laurel Peña, *FoodSheds Outreach Coordinator: Happy Camp*

Michael Max Hentz, *Fire and Fuels and Fisheries Project Coordinator*

Mitzi George Wickman, *Fisheries Project Coordinator, GIS Specialist*

Administrators

Amanda M. Rudolph, *Administrative Assistant*

Blythe Reis, *Grants and Contracts Administrator*

Heather Campbell, *Administrator*

Jacquelyn Robinson, *Administrator*

Myanna Nielsen, *Administrator*

Field Technicians and Program Assistants

Aja Conrad, *Invasive Weed Field Technician*

Andre Rogiers, *Equipment Operator*

Bebe Alcantar, *Invasive Weed Field Technician*

Brock Luedtke, *Fire and Fuels Field Technician*

Dylan Sullivan, *Fire and Fuels Field Technician*

Eric Nelson, *Fire and Fuels Field Technician*

Erin Cadwell, *Fire and Fuels Field Technician, Computer Specialist*

Gary Strouss, *Equipment Operator*

Heather Rickard, *Invasive Weed Field Technician*

Jared Wilder, *Fire and Fuels and Fisheries Field Technician*

Jimmy Shea, *Fire and Fuels Field Technician*

Joey Polmateer, *Fisheries Field Technician*

Kristopher Nelson, *Fisheries Field Technician*

Lena Neuner, *Fisheries Field Technician*

Logan Frantz, *Watershed Education/ Invasive Weeds, Fire and Fuels Field Technician*

Margaret Zee, *Fisheries Field and Data Technician*

Michael Kein, *Watershed Education, Klamath Siskiyou Outdoor School*

Nahum White, *Fire and Fuels Field Technician*

Nick Hillman, *Fire and Fuels Equipment Operator*

Pam Cobb, *Panamnik Building Custodian*

Pam Ward, *Panamnik Building Custodian and Recycling Coordinator*

Priscella Kinney, *Foodsheds Program Assistant*

Rachel Krasner, *Fisheries Field Technician*

Rebecca Lawrence, *Watershed Education, Klamath Siskiyou Outdoor School*

Rita Keating, *Panamnik Building Program Assistant*

Rudy Galindo, *Invasive Weeds and Fire and Fuels Field Technician*

Ryan Hogan, *Fire and Fuels Field Technician*

Shan Davis, *Fire and Fuels Field Technician*

Sinead Talley, *Fisheries Field Technician*

Skip Lowry, *Fire and Fuels Field Technician, Building Maintenance*

Tai Kim, *Fisheries Field Technician*

Travis Gayle, *Fire and Fuels Field Technician*

Walt Thom, *Fire and Fuels Field Technician*

Woody Watson, *Fire and Fuels Field Technician*

Wyatt McBroom, *Fire and Fuels Field Technician*

Zea Robbi, *Fisheries Field Technician*

Interpretive Center Intern

Courtney Brooks

2014 Stewardship Interns

Alyssa Algiers

Lewis Olson

Antonio Escalderon

Maya Mollier

Galen Stevens

Nia Rogers

Geena Talley

Tamara Alexander (Driver)

Jonathan Markin

What Will Your Klamath Legacy Be?

Think like a fish. Or a fire. That's what the Mid Klamath Watershed Council (MKWC) Executive Director says. You can help future generations do just that by writing MKWC into your will. Your choice to dedicate some or all of the assets you leave behind to sustain MKWC work will help the organization thrive through thick and thin to restore our watershed together.

Legacy giving can be simple, and it's a way to ensure that your vision for a healthy Klamath River becomes a reality. You can give a specific sum or percentage gift, a residual gift of what remains

after other expenses are paid, or a contingent gift in case another beneficiary doesn't survive.

Your financial advisor, attorney, or accountant can walk you through the steps you need to take and help you draft the correct language for your bequest. Humboldt Area Foundation also offers these services for those wishing to plan a gift to North Coast charities. Naming opportunities are available for interested donors. Please contact Erica Terence at MKWC for more information or assistance at erica@mkwc.org or (530)627-3202.

A female coho who found her way to the pond built up Middle Creek. MKWC Director Will Harling snorkeled the pond last winter and had this to say: "This coho, spawning in Middle Creek, then coming into the pond to die, is a thoughtful gesture to its offspring who will benefit from the added food and nutrients from its carcass when they come in next spring." What will you leave behind?



**MID
KLAMATH
WATERSHED
COUNCIL**

MEMBERSHIP LEVEL

(PLEASE CHECK ONE)

- \$25 Spring
- \$50 Creek
- \$100 River
- \$250 Confluence
- \$500 Estuary
- \$1500 Ocean (Lifetime Member)
- Other \$ _____

Thank you!

I WANT TO SUPPORT MKWC!

NAME: _____

MAILING ADDRESS: _____

CITY, STATE, ZIP: _____

E-MAIL: _____

PHONE (OPTIONAL): _____

\$50 and up check one: Please send me a Notecard Pack, T-Shirt (Shirt Size _____), No Gift.

All members will receive an annual newsletter and annual report.

Check any that apply: I want to be anonymous, List me as a member, but don't specify my member level, Please add me to your current events mailing

IN ADDITION TO MY MEMBERSHIP, I WOULD LIKE TO DONATE

\$ _____ TO:

Programs: Fire & Fuels Fisheries Native Plants Invasive Weed Management Panamnik Building Project Watershed Education Wildlife

Donations of \$250 or more are eligible for a one-day tour of current on-the-ground projects.

Please send me information on the restoration tour dates.

Send your check to:
MKWC
PO Box 409



Mid Klamath Watershed Council

Panamnik Building
38150 Highway 96
PO Box 409
Orleans, CA 95556

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